ADOT&PF Cobble Count Equipment and Procedure

For this purpose, “cobbles” are particles between 3 inches and 12 inches in an aggregate mixture. This test is a semi-quantitative measurement of the weight proportion of this size material for crushing, screening or other material handling considerations.

Weigh and separate the sample using a volume bucket with a chain or wire rope bail, a 500-lb. capacity spring scale with hooks at either end and a 3-inch square gauge or screen. A 55-gallon steel drum cut-off at about 14”, with several small drain holes is a suitable bucket. A backhoe is a preferred tool for digging and lifting. Non-mechanized methods can exceed the motivation of the investigator.

- Record the tare weight of the empty volume bucket.
- Fill the bucket with a representative sample and hoist it with the excavator, in line with the spring scale. Record the total sample+tare weight.
- Spill the contents onto the ground and hand-separate the 3 to 12 inch particles using the 3-inch gauge. Place these back into the bucket and weigh again. Record the cobbles+tare weight and particle count.
- Make note of any other pertinent information such as shape and composition of the cobbles. It might also be useful to submit the coarse particles for durability analyses and a sample representing the total aggregate for fine gradation analysis.
- Subtract the tare weights from each of the fractions and report the “cobble” proportion as a weight percentage of the total.